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ABSTRACT

This task group report is one of a series prepared by eminent psychologists who have served as consultants in the U.S.O.E.-sponsored grant study to conduct a Critical Appraisal of the Personality-Emotions-Motivation Domain. In order to achieve the goal of identifying important problems and areas for new research and methodological issues related to them, an approach was followed in which leading investigators in specialized areas were enlisted as members of task groups and asked to reflect on their current knowledge of ongoing research and to identify the research needs in their respective areas. In this volume, the author (Fiske) discusses the metatheoretical, theoretical, and methodological problems involved in studying personality. He includes paradigms for research, taking account of persons, tasks, environmental settings, and occasions. (Author)

NEEDED RESEARCH ON PSYCHOLOGICAL PROCESSES
A SPECIAL REPORT OF THE USOE-SPONSORED GRANT STUDY: CRITICAL APPRAISAL OF RESEARCH IN THE PERSONALITY-EMOTIONS-MOTIVATION DOMAIN

Section 7100 - Research on Psychological Processes
With Particular Reference to Personality
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Section 7100: Research on Psychological Processes With Particular Reference to Personality

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Psychology is pre-scientific, in Kuhn's terms. We have no generally accepted theory. Certainly in personality and in the study of psychological processes related to personality, there is no such theory. Also, there are no established theoretical propositions, and few explicit generalizations or empirical findings that can be readily replicated empirically. Therefore it is time to pause and see where we are and what we must do.

Personality, like the rest of psychology, is interested in processes. These processes are inferred or construed: for the most part, they are not available for direct scientific observation. Instead, we look at behaviors and draw our inferences from them. Hence most of this paper will deal with behaviors.

Processes and behaviors are highly variable over persons and situations. The task, then, is to find regularities. The Nobel Prize winner, Wigner, has suggested that the greatest discovery of physics may have been the specification of the explainable, namely, the regularities in the behavior of objects.

The psychological literature is full of studies where the variation of behavior is observed when everything is supposedly held constant except one or a few environmental variables. Much has been written on experimental designs, quasi-experimental designs (Campbell & Stanley, 1963), and studies of natural change, such as "Reforms as Experiments" (Campbell, 1969), etc. This

paper is concerned not with such formal or informal designs but rather with the theoretical significance of the substantive findings from any one study; the import of such findings clearly depends upon the representativeness and generalizability of the several variables, independent and dependent, which are involved. (Cf. the concepts of extrinsic and intrinsic validity in Campbell and Stanley, 1963.) No one cares much about the behavior of any subject or group of subjects unless the regularity of that behavior, and the domain within which it is regular and replicable, have been established.

Behaviors

First, regularity and replication under fixed conditions must be established. Most of the regularity now observed is regularity of means for a series of acts, not of single acts. Before anything further, we must decide whether regularity of averages is sufficient: it may have to be -- it is likely that probabilistic models will serve us better than deterministic. Single units or averages, whichever are selected, can then be employed in seeking regular covariation with changes in stimulation, environmental conditions, etc.

Most psychological data, and certainly most data collected in assessing personality, are highly specific to stimuli: responses to separate stimuli have very low intercorrelations; test scores for any one concept typically have low intercorrelations and each score's pattern of correlation with external variables inevitably has its idiosyncrasies. Does behavior lack

regularity when it is approached in terms of contents? Is the delineation of content both too descriptive and too interpretive to be useful scientifically? Are the central and salient acts, to which the subject and his observers usually attend, rather specific, while regularity we seek can more readily be observed in instrumental and expressive acts, and in acts which, though generally out of the center of awareness, seem to provide cues for social interaction? Thus, before we can study variations and covariations, we must first establish, i.e., we must demonstrate empirically, regularities in behavior. Such regularities will be with respect to defined units of behavior: the investigator must start by making explicit the class of behaviors he is treating as interchangeable. Strangely enough, this basic step is often ignored or misunderstood: obviously, in the streams of behaviors of different people, and even in the stream for the same person, no two acts are identical, topographically: we are dealing with the movements of complex organisms, not of constricted machines.

The unit of behavior to be studied can vary from a neural impulse to a vocational career, from the instantaneous to the enduring, from the concrete and tangible to the highly abstract. Too much of personality theorizing and investigation has been toward the longer, more abstract poles, with consequent heterogeneity of members in each class and with no consensus on criteria for which behaviors belong in the class (to say nothing of the effects contributed by each particular observer to the

observations or judgments used as data). An intensive analysis of this topic, searching for the most fruitful levels of abstraction, is needed.

Other Components of Data

Each behavior is an act, a movement in time and space, by an organism. So we start with a person and the environment, both taken as they are at the moment the act occurs. The classic equation, Behavior = a function of (Person and Environment), is a simple comprehensive model provided that the connective "and" includes the interaction between the person and his environment. Environment includes the background, the total physical setting, a topic which is discussed in the papers for Sections 5000-5400 and so will not be developed here. In experimentation and in testing (as contrasted with naturalistic observation), a focal stimulus is identified by the investigator and is part of the environment.

The person is a living and reacting biological entity, and hence is in a particular state when the act occurs. It seems safe to infer that regularity of behavior, in the sense of replicability, requires regularity or recurrence of state. We ordinarily assume that the state is determined in part by what we know of the subject's immediately preceding experience, including the task instructions given him. The task can, alternatively, be conceptualized as part of the environment. It is here considered part of the "person" to emphasize that what is relevant is the task as the person perceives it.

Similarly, we would like to measure the subject's perception of the background environment at the time of his act. Ordinarily, such measurement is not feasible and we settle, wisely or unwisely, for an objective description (i.e., we use the alpha press rather than the beta press, in Murray's terms).

Intensive theoretical and methodological analysis is needed of this crucial problem: how can we describe and measure the state of the person? Behavior is a function of the person as he interacts, but how can we measure and classify that person in terms of whatever it is that determines the quality of the act? Is any inference of his state from a knowledge of other correlated behaviors and of features of his environment essentially circular? Should we ignore his state and restrict our investigations to regularities in response-response relationships (cf. Galanter, 1970)?

A more formal model, rather similar to what is being presented here, has been explicated by Cattell (1966) from a somewhat different orientation. His Basic Data Relations Matrix includes the organism, the stimulus, the environment, the response, and the observer. The observer is a crucial part of the picture. Most of psychology, and certainly most of personality, does not use data from readings of dials that anyone can do. Personality uses the subject's perceptions of himself and others' perceptions of him. These latter perceptions agree only moderately over observers, except when the act is precisely specified so that no inference or interpretation need be made by the observer.

Needed Investigations

The questions posed in the preceding discussion indicate some of the needs in this area. More generally, what is required is an intensive and extensive metatheoretical analysis of our theorizing and our concepts, and of our methodology. We take almost everything for granted; we have many basic, unverbalized assumptions which need uncovering and examination. In particular, we need such analysis for each of the components we have considered: the person, the environment (stimulus and background), the observer, and the response itself.

Strategy for contemporary research. Such metatheoretic analysis may well prove to be relative to the theoretical question being posed. Until such analysis has been made, the investigator wishing to study variation in psychological processes must proceed with circumspection. First, he must make clear to himself and others exactly what behaviors he is studying. He must fully identify each such class, both in terms of criteria for observing their occurrence in his research and criteria for determining the domain outside the laboratory which they in some sense represent. He should indicate whether each such class is relative to the observers used or is essentially objective.

His next consideration is the classes of the other components in which he is interested. For each such class, is he concerned with the entire range or some restricted segment? Does he construe the class as varying over categories or along a continuum.

Finally, he must decide whether he intends to hold other components constant, as in a systematic experiment, or to allow them to vary freely, as in a representative design (using Brunswik's terms). If the latter, can he reasonably claim that each uncontrolled variable can vary naturally and provide him with an unbiased sample from its range of possible values? Whatever design he selects, he should state explicitly to himself and others the limits of the class of phenomena to which he feels confident that he can generalize his findings.

Strategic questions from a long-range perspective. The central but only vaguely recognized need is for intensive work on the basic strategy of psychological research, especially in the personality domain. Fundamental methodological problems must be faced.

A. What is the appropriate model for studying personality and the processes within that domain? Should it be the general model employed in research in the natural sciences, or some particular variant of that model, such as that used to study physiological functioning? Or should psychology have its own model, different from that general one? If so, what should it be? Should we explicitly accept the idea that the fascinating topic of people's behavior should be simultaneously approached in several essentially independent ways, different investigators choosing different ways? The following are ways now used, ways which involve different questions, different objectives, and which generate clearly different kinds of data:

1. Humanistic-experiential, using personalistic data.

2. Systematic gathering of reports of people's perceptions of people, as in work on applied social problems (such as in clinical psychology), using teachers, therapists, parents, peers, supervisors, etc., as natural raters.

3. The identification and study of behavioral acts which can be counted and timed by methods yielding data which are quite consistent over observers and therefore experimentally independent of the particular observer.

B. How can we study psychological processes? First, what is a process? It refers to the interaction between a person and his environment. Current dialogue in the journals suggests that such interaction is the largest component in the variance of behavior. Conceptual analyses of processes have been made (e.g., Fiske, 1971, Ch. 3). But we must keep in mind that any process is an inference: all we can usually observe are changes in the environment which are related temporally to changes in behavior, i.e., stimuli and responses.

Second, can we study the important psychological processes in the laboratory or testing room? How can we be sure of the occurrence of the postulated process? Or do we define each specific process simply as that which we presume to occur between a particular stimulus and a designated type of response.

Third, if we ever can establish replicable process-type phenomena in the laboratory (and this has rarely been achieved), are we studying laboratory behavior or behavior in general? How

can we determine the generalizability of our findings to phenomena outside the laboratory?

Fourth, is there a feasible alternative strategy which would involve devising ethical ways to study naturally occurring behavior? It might be possible to discover behaviors or attributes of behavior which are "the same" whether or not the subject knows he is being observed.

C. The concept of process is very broad, being applicable not only to 'instantaneous' processes in the nervous system but also to the process of aging which extends throughout most of all of an organism's life. Are there distinctly different kinds of psychological processes, ranging perhaps from the reflex which is almost instantaneous to a complex process such as striving for vocational success, which is intermittent, not advancing ordinarily while one is eating or sleeping? Are there processes composed of one or more levels of subprocesses?

Longitudinal research is a special case of process research. The kind of process involved is specified not just by its duration. It can be characterized as the study of long-term changes in a person which are not determined by systematic changes in his environment (other than changes in his environment which themselves are produced by changes in his behavior). Roughly speaking, the hope in such research is that the environment is constant: it may fluctuate but it does not change systematically in any particular direction. Since we know that this hope is rarely actualized, the problem is to disentangle changes in the

person from changes in the environment. One feasible design involves replications over cohorts started at different ages and chronological time-points (cf. Schaie, 1965).

In summary, the research needed in this area is research on the metatheoretical, theoretical, and methodological problems involved. A number of these problems have been pointed out in this paper.

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APPENDIX

Outline for PEM Study Adopted for Planning Purposes

(Detailed changes have been made by Task Groups at the discretion of group members.)

1000. PEM Aspects of Child Development

1100. Special Problems in Infancy and Early Childhood (birth to 5 years)

1101. Group care
   1. Effects of orphanage rearing, multiple mothering vs one-to-one mother-child (or surrogate mother) relations
   2. Related effects of environmental complexity

1102. Separation anxiety: fear of the strange

1103. Readiness
   1. General concept
   2. Special application to disadvantaged children

1104. Forced training ("pushing")
   1. In relation to "natural" intellectual limits
   2. In relation to readiness

1105. Sequential organization of learning
   1. In infancy
   2. In early childhood

1106. Parental involvement and influence on early development
   1. Effects of home environment, of implicit theories and practices of parents
   2. Manipulation of parental beliefs and practices, in enrichment programs

1107. Modes of learning and experience that affect early behavioral development
   1. Differential effects on anatomical maturation and behavioral development
   2. Correspondence between rates of anatomical and behavioral development
   3. Effects of environmental (experiential) enrichment and impoverishment, and cumulative effects with increasingly complex circumstances
   4. Hierarchical conceptions of intellectual development (Piaget)
   5. Development of learning sets and their implications for intellectual, motivational, and personality development; resistance of resultant behaviors to extinction
   6. Critical periods

1200. Child Socialization

1201. Conceptualization of the socialization process
   1. Socialization pressures
   2. Learning paradigms: e.g., dependency relations and adult control of "effects" (reinforcement), reference group formation

1202. Internalization of beliefs and values
  1. Conceptualization of attitude, belief, and value systems
  2. Identification processes
  3. Impulse control (self control)
  4. Effects of environmental resources

1203. Cognitive socialization
  1. Psycholinguistic structures, language development: effects on thought, beliefs, attitudes, interests; patterns of expression, values
  2. Uncertainty and information-seeking
  3. Development of expectancies; category accessibility; assimilation; effects on perception, cognition, action
  4. Symbolism, symbolic behavior

1300. Personality Development

1301. Developmental theories (Freud, Erikson, Piaget, Sears)

1302. Developmental sequences, stages
  1. Critical periods
  2. Fluid and crystallized patterns of intelligence (Cattell)

1303. Development of self-identity
  1. Self concept, ego theories, self theories
  2. Relations to social class, racial-ethnic factors, region, sex, family characteristics

1304. Effects of age, sex, culture, and other environmental factors

1305. Development of mechanisms of coping and adaptation

1400. Behavior Change

1401. Personality, learning

1402. Susceptibility to change of personality traits, attitudes, interests, beliefs, values

1403. Measurement of change

1404. Genetic, maturation, and learning factors in physical and psychological growth

2000. Personality

2100. Conceptual and Theoretical Approaches

2101. Criteria for a viable theory

2102. Development of unified, integrated theoretical formulations
  1. Cross-level comparisons and correlations
  2. Developmental histories of stable traits
  3. Relations among trait patterns at various developmental levels
  4. Relations of traits to perceptual responses in person perception and interpersonal interaction

2200. Cognitive Conceptions

2201. Cognitive style, complexity
2202. Balance theories
2203. Cybernetic formulations
    1. Computer simulation of personality
    2. Mathematical models

2300. Developmental Approaches (see 1300)

2400. Dynamic Approaches (see 1303, 4000)

2500. Morphologic Approaches

2600. Physiologic, Psychophysiological, and Biochemical Approaches (see 2102.1)

2700. Trait Structure, Multivariate Approach - Taxonomy of Trait-Explanatory Concepts of Stylistic and Temperament Aspects of Personality.

2701. Methodological problems: definition of universes of behaviors for self-report, observation-rating, and objective test studies, cross-media matching of stable structures, design paradigms, including multi-modality designs and trait x treatment designs; construct validation of traits; effects of age, sex, sample, culture, and other environmental effects, and relations of these to resulting trait patterns; the range of roles and sets in relation to diversity of response patterns obtained (social desirability, acquiescence, and other specific sets), their similarities in terms of effects on self-description, and the relations of traits to moderator variables representing such sets

2702. Observational, rating methods: rater and "ratee" sources of effects in peer and "other" ratings, in observational trait assessment, and in interpersonal interaction; explicit concern with task, stimulus presentation, response format, socio-environmental setting, and demographic characteristics of participants; conceptual and empirical relationships among similar and related trait descriptors within observational-rating subdomain and in other subdomains (self-report)

2703. Self-report methods: item pools; format; item vs cluster factorization; measurement of and correction for response bias or distortion; development of a unified, consistent conceptual framework for concepts of personality style and temperament

2704. Objective test, misperceptive, indirect assessment, and development of fresh, new approaches to personality measurement and description

2800. Creativity

2801. Conceptualization of creativity; relations to intelligence, personality factors

2802. Characteristics of the creative person
2803. Analysis of the creative process
2804. Characteristics of the creative product
2805. Characteristics of the creative situation, short- and long-term; situational factors contributing to creative performance
2806. Measurement of creativity

3000. Emotions

3100. State Patterns: Physiological, Cognitive, Behavioral
3101. Arousal stimuli
3102. Response dimensions
3103. Uniqueness
3104. Learned-unlearned dimensions
3105. Affective learning; autonomic and physiological learning

3200. Relations to Traits, Roles

3300. Moderation of Expression by Learning
1. Culture patterns
2. Age, sex, group norms

3400. Drug Effects on Emotional Patterns

3500. Differentiation of States, Reflecting Situational, Organismic, and Stimulus Variations, from Traits, Represented as Long-Term Individual Dispositions

3600. Arousal States: Adrenergic Response, Stress

3700. Dysphoric States: Anxiety, Depression, Guilt, Shame, Remorse (see 4300).

3800. Euphoric States: Happiness, Elation, Joy, Hope, Confidence

4000. Motivation

4100. Conceptualization and Theory (human motivation)
4101. Homeostatic systems, physiological need
4102. Need-press system (Murray), subsystems (n Ach)
4103. Dynamic systems (Freud, Cattell)
4104. Cognitive and cybernetic approaches: motivation inherent in information-processing functions (Hunt), cognitive dissonance theory, incongruity, collative variables (Berlyne), balance theories, exchange theory
4105. Motivation inherent in individual performance, competence motivation (White)
4106. Trait systems and patterns (Guilford, Cattell)
4107. Values systems, moral character
4108. Conceptualization of interest, attitude, need, belief, value, ideal

4200. Process and Trait Formulations
4201. Relations and differences in conception and approach
4202. Process theories and formulations
  1. Balance theories
  2. Exchange theory
4203. Trait formulations: motives, values, character traits
  1. Methodology of measurement: Strong paradigm, Thurstone scales, Likert scales, Cattell's and Campbell's indirect approaches: self-report, objective, misperception, observation, rating, content analysis, unobtrusive measures
  2. Analytic approaches: factor analysis, multidimensional scaling, profile clustering
  3. Factored patterns of sentiments, attitudes, interests, beliefs, values
  4. Variations related to age, sex, sample, culture, and other environmental factors

4300. Frustration, Stress, and Anxiety
4301. Frustration theory and research evidence
4302. Conceptualization of stress
  1. Relation to frustration (Selye)
  2. Utility of stress concept in interpretation of behavior
  3. Relationships among physiological and psychological aspects
  4. Stress and coping, adaptation
4303. Adaptation-Level Theory (Helson) (see 5100)

4400. Conflict
4401. Conceptualization of conflict (Miller, Murphy, Cattell)
  1. Types of conflict: role, value, internal
  2. Approach and avoidance relations
4402. Conflict measurement and calculus
4403. Conflict in relation to interpretation and prediction of action

4500. Interests and Vocational Guidance
4501. Incremental value of interest measurement over ability and aptitude measures in predictions of various criteria on various populations (Thorndike, 10,000 Occupations; Clark, Minnesota study)

5000. Environmental Variables

5100. Conceptualization of Environmental Variables and Their Effects on Behavior; Human Ecology

5200. Methodologies for Encoding Environmental Factors

5300. Taxonomic Systems of Environmental Variables

5400. Normative Studies of Selected Behaviors in Relation to Defined Patterns of Environmental Setting: Sampling Problems in Relation to Populations, Behaviors, Macro- and Micro-Environmental Settings

6000. Interpersonal Behavior Processes

6100. Group Theory, Role Theory, Interpersonal Settings

6200. Interpersonal Perception, Attraction, Influence; Social Acuity, Empathy

7000. Variations in Psychological Processes

7100. Paradigms for such Research, Taking Account of Persons, Tasks, Environmental Settings, and Occasions (Cattell covariation chart, Campbell-Fiske model, longitudinal replication)

7200. Paradigmatic Studies of Selected Learning, Motivation, Perception, and Other Psychological Processes to Investigate Variations Attributable to Shifts in Subject, Task, Setting, and Occasion Dimensions

7201. Analyses to estimate magnitudes of variance components in standard dependent variables accounted for by trait, treatment, and trait by treatment sources and their specific constituents

7202. Analysis of total interaction parameter estimates into principal components or other dimensions in order to compare results by such methods with conventional R, P, Q analysis, both with single dependent variables and vectors (multiple dependent variables)